Section II: Other LAER/BACT Determinations

Application No.: 9788

Equipment Category – I.C. Engine, Landfill Gas Fired

1. GENERAL INFORMATION

DATE: 9/8/2004

A. MANUFACTURER: Caterpillar

B. TYPE: Large Bore, Spark-Ignited

C. MODEL: G3616

D. STYLE: 16-cylinder

E. APPLICABLE AQMD RULES:

F. COST: $ (NA) SOURCE OF COST DATA:

G. OPERATING SCHEDULE: 24 HRS/DAY 7 DAYS/WK 52 WKS/YR

2. EQUIPMENT INFORMATION

APP. NO.: 9788

A. FUNCTION: Drives 3.1 MW generator producing power for sale to the grid.

B. MAXIMUM HEAT INPUT: 32.93 MMBtu/hr (LHV, from manufacturer spec sheet)

C. MAXIMUM THROUGHPUT: 4231 bhp

D. BURNER INFORMATION: NO.: TYPE:

E. PRIMARY FUEL: Landfill Gas

F. OTHER FUEL: None

G. OPERATING CONDITIONS: Steady, at or near full load.

3. COMPANY INFORMATION

APP. NO.: 9788

A. NAME: MM Tajiguas Energy LLC

B. SIC CODE: 4953

C. ADDRESS: Tajiguas Landfill, 14470 Calle Real

CITY: Goleta STATE: CA ZIP:

D. CONTACT PERSON: Dan Kelly

E. PHONE NO.: 805-968-7594

4. PERMIT INFORMATION

APP. NO.: 9788

A. AGENCY: SBCAPCD

B. APPLICATION TYPE: new construction

C. AGENCY CONTACT PERSON: Mike Goldman

D. PHONE NO.: 805-961-8821

E. PERMIT TO CONSTRUCT/OPERATE INFORMATION: P/C NO.: 9788-04 ISSUANCE DATE: 1/9/1998

☐ CHECK IF NO P/C P/O NO.: 9788 ISSUANCE DATE: 2/20/2002

F. START-UP DATE: 6/30/1998

5. EMISSION INFORMATION

APP. NO.: 9788

A. PERMIT

A1. PERMIT LIMIT: NOx: 108 ppmvd@3%O2 and 0.149 lb/MMBtu and 0.53 g/bhp-hr. VOC: 20 ppmvd@3%O2 as hexane and .061 lb/MMBtu and 0.216 g/bhp-hr. PM10: .066 g/bhp-hr. Annual source test for NOx and VOC. Triennial source test for PM10. Weekly NOx check using APCD-approved analyzer. Emission limits not applicable within 15 minutes of startup or shutdown. Engine not to operate less than 90% of rated MW capacity (2790 kW). Fuel sulfur not to exceed 50 ppmv as H2S. Heat input (MMBtu) not to exceed 32.93/hr, 790.32/day, 72,112/quarter, 288,447/yr.

A2. BACT/LAER DETERMINATION: NOx: 108 ppmvd@3%O2 (0.149 lb/MMBtu) or 0.53 g/bhp-hr. VOC: 20 ppmvd@3%O2 as hexane and either .061 lb/MMBtu or 0.216 g/bhp-hr.

A3. BASIS OF THE BACT/LAER DETERMINATION: SCAQMD, BAAQMD and SJVUAPCD BACT data bases

B. CONTROL TECHNOLOGY

B1. MANUFACTURER/SUPPLIER: Caterpillar

B2. TYPE: Engine Design and Landfill Gas Conditioning System

B3. DESCRIPTION: Engine Design: air/fuel ratio controller, spark timing and duration controls, turbocharged, intercooled induction air system. Landfill Gas Conditioning System: gas condensate scrubber and filter.

B4. CONTROL EQUIPMENT PERMIT APPLICATION DATA: P/C NO.: ISSUANCE DATE:
P/O NO.: ISSUANCE DATE:

B5. WASTE AIR FLOW TO CONTROL EQUIPMENT: FLOW RATE:
ACTUAL CONTAMINANT LOADING: BLOWER HP:

B6. WARRANTY:

B7. PRIMARY POLLUTANTS: NOx, CO, VOC, PM10, SOx

B8. SECONDARY POLLUTANTS:

B9. SPACE REQUIREMENT:

B10. LIMITATIONS: B11. UNUSED

B12. OPERATING HISTORY: Engine has been in regular use since startup.

B13. UNUSED B14. UNUSED

C. CONTROL EQUIPMENT COSTS

C1. CAPITAL COST: ☐ CHECK IF INSTALLATION COST IS INCLUDED IN EQUIPMENT COST
EQUIPMENT: $ INSTALLATION: $ (NA) SOURCE OF COST DATA:

C2. ANNUAL OPERATING COST: $ (NA) SOURCE OF COST DATA:

D. DEMONSTRATION OF COMPLIANCE

D1. STAFF PERMFORMING FIELD EVALUATION:
ENGINEER'S NAME: INSPECTOR'S NAME: DATE:

D2. COMPLIANCE DEMONSTRATION:

D3. VARIANCE: NO. OF VARIANCES: None DATES:
CAUSES:

5. EMISSION INFORMATION

APP. NO.: 9788

D4. VIOLATION: NO. OF VIOLATIONS: None DATES:

CAUSES:

D5. MAINTENANCE REQUIREMENTS:

D6. UNUSED

D7. SOURCE TEST/PERFORMANCE DATA RESULTS AND ANALYSIS:

DATE OF SOURCE TEST: May 2002, May 2003 CAPTURE EFFICIENCY:

DESTRUCTION EFFICIENCY: OVERALL EFFICIENCY:

SOURCE TEST/PERFORMANCE DATA:

Date	5/9/02	5/28/03
Heat Input, MMBtu/hr	33.08	33.76
Generator Output, kW	2,827	3,028
NOx, ppmvd@3%O2	90	88
NOx, lb/hr	3.94	3.90
NOx, lb/MMBtu	0.119	0.116
CO, lb/hr	14.34	18.57
NMOC, ppmvd@3%O2 as hexane	16	18
NMOC, lb/hr	1.46	1.67
NMOC, lb/MMBtu	.044	.049

OPERATING CONDITIONS:

TEST METHODS: NOx-USEPA Method 7E, CO-USEPA Method 10, NMOC-USEPA Method 25.3. Test report approved by SBCAPCD.

6. COMMENTS

APP. NO.: 9788